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wiper, who holds an MMC or MMD endorsed as qualified member of the engine department issued by the Coast Guard.

(b) For purposes of administering this part the rating of assistant electrician is considered a rating equal to coal passer or wiper.

(c) An applicant, to be eligible for an endorsement as qualified member of the engine department, shall be able to speak and understand the English language as would be required in the rating of qualified member of the engine department and in an emergency aboard ship.

(d) An STCW endorsement will be issued or renewed only when the candidate for endorsement as a qualified member of the engine department also produces satisfactory evidence, on the basis of assessment of a practical demonstration of skills and abilities, of having achieved or maintained within the previous 5 years the minimum standards of competence for the following 4 areas of basic safety:

(1) Personal survival techniques as set out in table A-VI/1-1 of the STCW Code (incorporated by reference in §12.01-3).

(2) Fire prevention and fire-fighting as set out in table A-VI/1-2 of the STCW Code.

(3) Elementary first aid as set out in table A-VI/1-3 of the STCW Code.

(4) Personal safety and social responsibilities as set out in table A-VI/1-4 of the STCW Code.

(e) An STCW endorsement will be issued or renewed only when the candidate for endorsement as a qualified member of the engine department meets the standards of competence set out in STCW Regulation III/4 and Section A-III/4 of the STCW Code (incorporated by reference, see §12.01-3), if the candidate will be serving as a rating forming part of a watch in a manned engine-room, or designated to perform duties in a periodically unmanned engine-room, on a seagoing ship driven by main propulsion ma-

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chinery of 750 kW [1,000 hp] propulsion power or more.

[CGFR 65-50, 30 FR 16640, Dec. 30, 1965, as amended by CGD 95-062, 62 FR 34538, June 26, 1997; USCG-2000-7790, 65 FR 58458, Sept. 29, 2000; USCG-1999-5610, 67 FR 66069, Oct. 30, 2002; USCG-2006-24371, 74 FR 11257, Mar. 16, 2009]

§ 12.15-5 Physical and medical requirements.

The physical and medical requirements for an endorsement as QMED are found in §10.215 of this chapter.

[USCG-2006-24371, 74 FR 11257, Mar. 16, 2009]

§ 12.15-7 Service or training requirements.

(a) An applicant for an endorsement as qualified member of the engine department shall furnish the Coast Guard proof of qualification based on six months' service in a rating at least equal to that of wiper or coal passer.

(b) Training programs approved by the Commanding Officer, National Maritime Center, may be substituted for the required service at sea in accordance with the following:

(1) A graduate of a school ship may qualify for a rating endorsement as qualified member of the engine department upon satisfactory completion of the course of instruction. For this purpose, *school ship* is interpreted to mean an institution which offers a complete course of instruction, including a period of sea training, in the skills appropriate to the rating of qualified member of the engine department.

(2) Training programs other than those classified as a school ship may be substituted for up to one-half of the required service at sea.

(c) To qualify to receive an STCW endorsement for service as a 'rating forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room' on a seagoing vessel driven by main propulsion machinery 750 kW [1,000 hp] propulsion power or more, an applicant shall prove seagoing service that includes training and experience associated with engine-room watchkeeping and involves the performance of duties carried out under

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the direct supervision of a qualified engineer officer or a member of a qualified rating in the engine department. The training must establish that the applicant has achieved the standard of competence prescribed in table A-III/4 of the STCW Code (incorporated by reference in §12.01-3), in accordance with the methods of demonstrating competence and the criteria for evaluating competence specified in that table.

[CGD 80-131, 45 FR 69241, Oct. 20, 1980, as amended by CGD 95-072, 60 FR 50460, Sept. 29, 1995; CGD 95-062, 62 FR 34538, June 26, 1997; CGD 95-062, 62 FR 40140, July 25, 1997; USCG-1998-4442, 63 FR 52189, Sept. 30, 1998; USCG-1999-5610, 67 FR 66069, Oct. 30, 2002; USCG-2006-24371, 74 FR 11257, Mar. 16, 2009]

§ 12.15-9 Examination requirements.

(a) Each applicant for endorsement as a qualified member of the engine department in the rating of oiler, watertender, fireman, deck engineer, refrigeration engineer, junior engineer, electrician, or machinist shall be examined orally or by other means and only in the English language on the subjects listed in paragraph (b) of this section. The applicant's general knowledge of the subjects must be sufficient to satisfy the examiner that he is qualified to perform the duties of the rating for which he makes application.

(b) List of subjects required:

Subjects	Machinist	Refrigerating engineer	Fireman/Watertender	Oiler	Electrician	Junior engineer	Deck engineer
1. Application, maintenance, and use of hand tools and measuring instruments	X	X	X	X	X	X	X
2. Uses of babbitt, copper, brass, steel, and other metals	X	X	X	X	X	X	X
3. Methods of measuring pipe, pipe fittings, sheet metal, machine bolts and nuts, packing, etc	X	X	X	X	X	X	X
4. Operation and maintenance of mechanical remote control equipment	X	.....	X	X	X	X	X
5. Precautions to be taken for the prevention of fire and the proper use of firefighting equipment	X	X	X	X	X	X	X
6. Principles of mechanical refrigeration; and functions, operation, and maintenance of various machines and parts of the systems .....	.....	X	.....	X	.....	X	.....
7. Knowledge of piping systems as used in ammonia, freon, and CO ₂ , including testing for leaks, operation of bypasses, and making up of joints .....	.....	X	.....	.....	.....	X	.....
8. Safety precautions to be observed in the operation of various refrigerating systems, including storage of refrigerants, and the use of gas masks and firefighting equipment	X	X	X	X	X	X	X
9. Combustion of fuels, proper temperature, pressures, and atomization .....	.....	.....	X	X	.....	X	.....
10. Operation of the fuel oil system on oil burning boilers, including the transfer and storage of fuel oil .....	.....	.....	X	X	.....	X	X
11. Hazards involved and the precautions taken against accumulation of oil in furnaces, bilges, floorplates, and tank tops; flarebacks, leaks in fuel oil heaters, clogged strainers and burner tips	X	X	X	X	X	X	.....
12. Precautions necessary when filling empty boilers, starting up the fuel oil burning system, and raising steam from a cold boiler .....	.....	.....	X	X	.....	X	.....
13. The function, operation, and maintenance of the various engineroom auxiliaries	X	X	X	X	X	X	.....
14. Proper operation of the various types of lubricating systems	X	X	X	X	X	X	X
15. Safety precautions to be observed in connection with the operation of engineroom auxiliaries, electrical machinery, and switchboard equipment	X	X	X	X	X	X	X
16. The function, operation, and maintenance of the bilge, ballast, fire, freshwater, sanitary, and lubricating systems ..	X	X	X	X	.....	X	X
17. Proper care of spare machine parts and idle equipment ...	X	X	X	X	X	X	X
18. The procedure in preparing a turbine, reciprocating, or Diesel engine for standby; also the procedure in securing ..	.....	.....	X	X	.....	X	.....
19. Operation and maintenance of the equipment necessary for the supply of water to boilers, the dangers of high and low water and remedial action .....	.....	.....	X	X	.....	X	.....
20. Operation, location, and maintenance of the various boiler fittings and accessories	X	.....	X	X	.....	X	.....